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NEWSLETTER, SEPTEMBER 2009

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1. (U) Summary: This is the South African Environment, Science and
Technology Monthly Newsletter, September 2009, Volume 4, Number 9,
prepared by the U.S. Embassy Pretoria, South Africa.

Topics of the newsletter:

- SUMBANDILASAT FINALLY SHOOTS INTO ORBIT
- HIGH-SPEED DATAT LINK TO BE INSTALLED TO SERVICES SALT
- WATER POLLUTION POTENTIAL TRHEAT TO FOOD SECURITY IN SOUTH AFRICA
- THE GAUTENG PROVINCE MAY RUN OUT OF WATER BY 2013
- FISHING INDUSTRY OPERATORS AND ENVIRONMENTAL NOGO PARTNER TO
PROMOTE
SUSTAINABLE FISHING
- SOUTH AFRICA OPENS A CARBON CAPTURE CENTER
- CAPTIVE-BRED LION BREEDERS LOSE COURT APPEAL
- UNIVERSITIES PARTNER IN WATER AND ENERGY RESEARCH FOR SOUTH
AFRICA AND
DEVELOPING COUNTRIES
- MONTHLY FACTOID

SumbandilaSat Finally Shoots Into Orbit

After numerous false starts over several years, the South African
space satellite Sumbandila was finally launched into orbit on
September 17, 2009, at 17:55 South African time. SumbandilaSat was
launched from the Baikonur cosmodrome in Kazakhstan, on a Russian
Soyuz rocket. The 81 kilogram low- earth orbiting micro satellite
carries a high resolution camera that will produce images for use in
monitoring agriculture, mapping infrastructure and land use, and
measuring the water levels of dams. Data will be streamed to the
Council for Scientific and Industrial Research's Satellite
Applications Centre (SAC) at Hartbeeshoek, near Pretoria for
analysis and policy development purposes. In addition to the
camera, the satellite carries a secondary communication payload from
the Department of Communications and experimental payloads for the
scientific community in the areas of low frequency radio waves,
radiation, software defined radio, a forced vibrating string
experiment and an amateur radio transponder. The Minister of
Science and Technology Ms. Naledi Pandor and her Director General

Dr. Phil Mjwara were in Kazakhstan to witness the launch.

High-Speed Data to be Installed to Service SALT

High-Speed Data Link to Be Installed to Service SALT. Vice President of the South African National Research Foundation (NRF) Mr. Gatsha Mazithulele announced that Telkom and the Department of Science and Technology have reached an agreement to install a 90GB data link between Cape Town and Sutherland by December 1, 2009. Mazithulele said the installation will provide a high-speed link between the two locations, which would help scientists send data from the South African Large Telescope (SALT) to their counterpart researchers abroad. Previously, South African scientists had to burn data onto CDs and then post or courier them to overseas destinations because of inadequate bandwidth, a time consuming and cumbersome process. Phil Charles, director of the South African Astronomical Observatory, which manages SALT said, "What we have at the moment is less than 1GB of bandwidth between Sutherland and Cape Town - that is the bottom end of what an individual could expect from an internet service provider," Meanwhile, Mr. Mazithulele said the data link would be an interim measure to serve SALT's needs for the next three to five years, but would ultimately enable scientists to link to the South African Research Network (Sanren), a high-speed Qto link to the South African Research Network (Sanren), a high-speed network for research traffic. SALT is regarded as the most powerful optical telescope in the southern hemisphere and is expected to be fully operational by the end of the year. A series of technical problems have delayed plans to get it up and running for international researchers.

Water Pollution Potential Threat to Food Security in South Africa

The Council for Scientific and Industrial Research's (CSIR) water expert Dr. Paul Oberholster told Transvaal Agricultural Union (TAU) conference attendees that South Africa's water resources are

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dangerously under threat from pollution. According to Oberholster, CSIR research has shown that demand for water will outstrip supply by 2025, attributing the problem to population increase, economic growth and climate change. TAU's Deputy President Louis Meintjies fingered mines as the biggest polluters, but also said that farmers were partly to blame since their activities also had an impact on the environment. Meintjies complained that some farmers are using polluted water to irrigate crops, and asked, "How do they expect to feed South Africa". He added that "The water system goes through South Africa into Mozambique; we give them polluted water" he quipped, and cautioned that this had the potential to trigger conflict. Oberholster emphasized the need to address this potentially adversarial situation urgently if food security was to be maintained in the country. He said researchers should look beyond dams in addressing the problems, emphasizing the need to focus on natural water catchments, opining that treating polluted dams only would not solve the problem. He announced that he was establishing a chair of water quality and food security in the CSIR to investigate the problems and devise some solutions.

The Gauteng Province May Run out of Water by 2013

South Africa's economic powerhouse, Gauteng province, is at risk of running short of clean water supply by 2013 according to the Department of Housing (DOH). Gauteng municipalities are losing approximately R1, 2billion (\$160 million) on lost or unaccounted-for water. The problems are also attributed to aging underground infrastructure where leaks are not discovered for several months, uncollected water bills, dysfunctional meters, substandard building materials, etc. The Department of Water and Environmental Affairs and the Development Bank of Southern Africa gathered along with delegates from all Gauteng municipalities to discuss ways to monitor and implement water conservation and demand management strategies in the province. Gauteng Housing Minister (MEC) Kgaogelo Lekgoro encouraged municipalities to participate actively in sustainable water management because "it ties in directly with their mandate to deliver services to the people of Gauteng". He also noted that the

province would lobby for R600million (\$80 million) per year for the next six years. The funds would be used for technical skills development, retention and infrastructure upgrades.

DOH spokesman Fred Mokoko said that with improved water conservation and management systems, the province could cut losses by 15 percent by 2013. He stated that Gauteng spends over R100million (\$13.3million) per annum on water management. Johannesburg municipality uses about 500 million cubic meters of water a year, but 30 percent is unaccounted for, translating into a R522million (\$69.6 million) loss. Deputy Director General of DWEA Dr Sizwe Mkhize lamented that eThekweni municipalities in KwaZulu-Natal and the Nelson Mandela Bay municipality in Eastern Cape provinces are headed in a similar direction. He said although the Lesotho highlands Water Project was being expanded, the province did not feel the benefits of the project because of high levels of illegal water usage

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Operators and Environmental

NGO Partner to Promote Sustainable Fishing

Major stakeholders in the South African fishing industry have joined together to establish what is known as the Responsible Fisheries Alliance (RFA). RFA represents industry operators' and environmental NGOs' commitment to sharing solutions to secure the future of seafood and marine ecosystems. Sustainable fisheries manager at the World Wide Fund for Nature (WWF) Dr. Samantha Petersen stated at the launch that the aim of the alliance is to ensure that all stakeholders understand and support the implementation of an ecosystems approach to fisheries (EAF) management. An EAF seeks to protect and enhance the health of marine ecosystems on which life and human benefits depend. RFA will promote responsible fishery practice, influence policy on fishery governance, promote skills development to enable EAF implementation, and facilitate ecological and socio-economical research to inform the implementation of an EAF. Former president of the IUCN Dr. Valli Moosa stated that, "The RFA will facilitate the support of the regulatory framework by sharing the responsibility of wisely managing our oceans and providing additional resources to further the World Summit on Sustainable Development goal of implementing an EAF management by 2012." RFA's key stakeholders include WWF, fishing companies Oceana, I&J, Sea Harvest and Viking.

South Africa Opens a Carbon Capture Center

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On September 29, South Africa officially launched the South African Carbon Capture and Storage (CCS) center, which will drive research and carbon capture processes in the country. The center is part of a plan to capture and store carbon emissions from expected high volume emissions in the next decade. CCS involves capturing carbon dioxide from gases produced by fossil fuel combustion, then compressing and injecting it into deep geological formations for permanent storage. South Africa is expected to increase its carbon dioxide emissions for at least another decade, which makes CCS a necessary mitigation measure to keep greenhouse gas emissions under control. Speaking at a carbon capture and storage conference in Johannesburg at which the center was launched, Minister of Energy Dipuo Peters said, "The world needs to wean itself from fossil fuels on to both nuclear and renewable energy. That process will take time and carbon capture and storage is seen as a transitional measure". Minister Peters also stated that the South African National Energy Research Institute (SANERI) began a study for a carbon geological storage atlas in 2008. She noted that the atlas would be published in 2010 and will help locate potential geological carbon storage sites. World Wide Fund for Nature (WWF) South Africa Climate Change program manager Richard Worthington raised a concern that the advent of carbon capture and storage could sideline efforts to develop a renewable energy industry which would have social and economic benefits. Meanwhile the center's head Dr. Tony Surridge stated that, "We believe that we must put a lot of money into

renewable energy and energy efficiency. No technology should be left off the table".

Captive-Bred Lion Breeders Lose Court Appeal

The Free State High Court dismissed an application by the South African Predator Breeders Association (SAPBA) to appeal a decision on captive-bred lions. The SAPBA took the Minister of Environmental Affairs to court in May of 2007 in protest against certain clauses of the Threatened or Protected Species regulations which came into effect in 2008. SAPBA objected to the listing of lions as protected large predators and the 24 month period in which the captive-bred lions had to fend for themselves in the wild before they could be hunted. The association argued that the 24 month self sustaining period provision would destroy the industry with negative economic and social impacts. Areas likely to be hard hit could be the Free State, Limpopo and the North West provinces where captive-bred lion breeding is mostly practiced. Meanwhile the Environmental Affairs department has welcomed the court's decision. Albi Modise, department spokesperson, noted that, "hunting is an important industry, but we must manage it in accordance with defensible standards." He said the department has a responsibility to preserve the resource base and ensure that the industry has a sustainable future.

Universities Partner in Water and Energy Research for South Africa and Developing Countries

Three major academic institutions from South Africa, Israel and the United States have signed an agreement to conduct joint scientific studies into water purification and the transformation of algae into energy. The joint research is intended to benefit the people of South Africa, Israel and other developing countries of the world. Prof. Bheki Mamba said that the University of Johannesburg (UJ), the University of California Los Angeles (UCLA) and the Ben Gurion University (BGU) of Israel will look into how they can contribute to the ongoing South African research on water purification in the rural areas and the Haartebees dam. He said they would investigate the possibility of harvesting algae from the dam and transforming it into energy. Mamba said they would try to address the issue of bacteria and viruses in the water, and hope to develop low-cost and low maintenance solutions aimed at the rural areas. Prof. Mamba will lead the South African research team, Professors Sammy Boussiba and Yoram Oren would lead the Israeli projects, supported by a world-renowned expert in water purification and microalgae technology Prof. Eric Hoek of UCLA.

La Lime